

DIVISION OF BUILDING SAFETY
ELECTRICAL BUREAU

Important Notice

May, 2003

ELECTRICAL METALLIC TUBING (EMT) "RAIN TIGHT" FITTINGS

This issue has been brought to the attention of the Division of Building Safety, Electrical Bureau and the Idaho State Electrical Board, that some electrical metallic tubing (EMT) fittings are being installed within the state of Idaho, in a wet and rain exposed environment, without the approved (tested) "rain tight" listing. Apparently, some EMT fitting manufactures have withdrawn their product from specific testing requirements of UL 514 B for "rain tight" labeling and listing.

The 2002 National Electrical Code references the "raintight" listing requirement in several Articles. **(Emphasis added)**

100A. GENERAL DEFINITIONS – Raintight. Constructed or protected so that exposure to a beating rain will not result in the entrance of water under specified test conditions

358.42 Couplings and Connectors. Couplings and connectors used with EMT shall be made up tight. Where buried in masonry or concrete, they shall be concrete-tight type. Where installed in wet locations, they shall be of the rain-tight type.

314.15 (A) Damp or Wet Locations. In damp or wet locations, boxes, conduit bodies, and fittings shall be placed or equipped so as to prevent moisture from entering or accumulating within the box, conduit body, or fitting. Boxes, conduit bodies and **fittings installed in wet locations shall be listed for use in wet locations.**

110.3(a). Examination. In judging equipment, considerations such as the following shall be evaluated:

(1) Suitability for installation and use in conformity with the provisions of this Code.

In addition, Underwriters Laboratories Inc. "White Book" 2002 Directory, *General Information for Electrical Equipment*, Electrical Metallic Tubing Fittings (FKAV), requires fittings, which have been examined as suitable for use in, poured concrete or where exposed to rain, to be so identified on the device or the carton. The term "rain tight" or the equivalent on the carton indicates suitability for use where directly exposed to rain.

In response to the Board's instructions, the Bureau is bringing this "rain tight" listing issue to the attention of installers. The Bureau will post a copy of this notice on the Internet and copies will be circulated thru-out the state.

The Electrical Bureau is statutorily obligated

to adhere to the NEC regarding electrical installations. Therefore, until such time as the "rain tight" issue can be satisfactorily resolved, any electrical fitting installation that is found to be not in compliance to the NEC, the installer will be issued an Electrical Correction Notice, per Idaho Code § 54-1004. This notice will be separate from any other violations. It will be the responsibility of the installer to ensure NEC compliance, and no reinspection fees will be assessed for this notice.

Additionally, for future installations, the Bureau would recommend and appreciate the assistance and cooperation of installers to check for the "rain tight" listing identification, before installing EMT fittings in a wet location.

"Raintight" compression type EMT fittings for use in wet locations **UPDATE: August 23, 2004**

UL offers Listing service for "raintight" compression type EMT fittings under the product category Electrical Metallic Tubing (EMT) Fittings (**FKAV**) located on page 32 of the 2003 General Information Directory for Electrical Equipment (White Book).

UL recently conducted a study to determine the reliability of "raintight" compression fittings to consistently comply with the wet location test criteria. Based on the results, UL initiated a more stringent follow-up test program to assure these products consistently exclude water to maintain their "raintight" marking.

As of March 2002, manufacturers of UL Listed "raintight" (wet location) compression type EMT fittings were required to comply with the more stringent follow-up test requirements. If they did not comply, they were no longer authorized to mark their UL Listed fittings with the "Raintight" marking.

Four manufacturers presently have Listing

As of August 2004, only four manufacturers are authorized to mark their Listed compression type EMT fittings with the "Raintight" marking.

Bridgeport Fittings Inc. has their 250 and 260 Series with an RT Suffix connectors and couplings in the ½, ¾, and 1 inch trade size Listed for raintight applications.

These fittings are provided with additional sealing rings to exclude water. The installation instructions on the carton must be followed for proper installation. Look for the "Raintight" marking on the container and the UL Mark on the fitting.

O-Z / Gedney LLC has their Compression connectors, Cat. Nos. 7050, 7075 and 7100, with a SR or SRT suffix. and Compression couplings, Cat. Nos. 6050, 6075 and 6100 with a SR suffix. in the ½, ¾, and 1 inch trade size Listed for raintight applications.

These fittings are provided with additional "O" rings and knock out gaskets to exclude water. The installation instructions on the carton must be followed for proper installation. Look for the "Raintight" marking on the container and the UL Mark on the fitting.

Steel City / Thomas & Betts, Inc. has their compression connectors Cat. Nos. TC-111A-RT and TC-711A-RT in the ½ trade size, TC-112A-RT and TC-712A-RT in the ¾ in. trade size and TC-113A-RT and TC-713A-RT in the 1 in trade size. The installation instructions for all three trade size connectors state to "Tighten Gland nut until thread bottoms out". All the connectors employ a knockout gasket to exclude water.

Couplings Cat. Nos., TK-111A-RT in the ½ in. trade size, TK-112A-RT - ¾ trade size and TK-113A-RT in the 1 in. trade size. The installation instructions for the ¾ trade size couplings specify to torque the compression nuts to 600 in-lbf and for the 1 trade size couplings specify to torque the compression nuts to 770 in-lbf.

These fittings are provided with solid compression rings (not split) to exclude water. The installation instructions in or on the carton must be followed for proper installation. Look for the "Raintight" marking on the container and the UL Mark on the fitting.

Regal Mfg, Div. of Creftcon Industries, has their compression connectors Cat. Nos. Connectors, Rain-Tight, Cat. Nos. 601W, 602W and 603W in the 1/2, 3/4 and 1 in. trade size and Couplings, Cat. Nos. 611W, 612W, 613W in the 1/2, 3/4, and 1 in. trade size.

Both the Connectors and Couplings incorporate a plastic sleeve inside of the body throat and the Connectors incorporate a sealing ring. The installation instructions in or on the carton must be followed for proper installation. Look for the "Raintight" marking on the container and the UL Mark on the fitting.

The availability of "raintight" fittings may change as manufacturers redesign their fittings to comply with UL's new follow-up "raintight" testing. It is imperative to always look for the proper marking on the product and container. If the product is not marked with the UL Listing Mark and the container is not marked "Raintight," then the fittings have not been Listed for raintight applications. As new "Raintight" Listings are promulgated, this page will be updated.